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Five Morphemes in Finnish: Possessive Suffixes or Anaphoric Clitics

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0. Introduction

Finnish has five morphemes that have presented analytic difficulties to both syntacticians and phonologists for years. These five morphemes have been referred to in the literature as "Possessive Suffixes" (henceforth Px, as is the traditional abbreviation in the field), "possessive" because of their association and cooccurrence with the genitive personal pronouns, and "suffixes" because of their status as a proper subpart of the word. I shall demonstate that the best approach to these morphemes is to describe them as clitics; my discussion brings together facts about the phonological and morphological behavior of the Px (few of which have been presented in a unified way in the literature) that point to cliticization. Then I shall examine the syntactic evidence and, taking into consideration a presentation by Pierrehumbert (1981), argue for two fairly simple clisis rules involving clitic doubling and clitic movement (as well as clitic adjunction).[1]

I will also argue that because they never occur without coreference to another noun phrase in the sentence, the Px are anaphors. (An apparent exception, in which the NPs referred to are (genitive) non-interrogative personal pronouns, turns out to fall under my generalization; these NPs undergo free deletion at a late stage in the grammar.) Finally, although I claim that the Px are (anaphoric) clitics, I point out how they differ systematically from other clitics in Finnish.

1. Phonological Facts

Any morpheme in this class behaves as if it were a proper subpart of the word, because it undergoes certain (morpho)phonological rules with the word as their domain, and because it prevents other (morpho)phonological rules from applying word-finally to stems. The Px must also be considered proper subparts of words for the reason that they are not phonotactically possible independent words. Instead, they are similar, or sometimes even identical, to well-formed suffixes of Finnish.

1.1. Word-internal sandhi[2] and phonotactics

No word begins with geminates in Finnish, though the first and second person plural Px do (-mme and -nne, respectively). Few words begin with consonant clusters, none with ns, but the third person Px (at least in its basic allomorph) is -nsa ~ -nsä. Therefore the Px cannot stand alone as independent words. They are similar to case suffixes in form--1SG -ni and 2SG -si parallel the essive suffix -na; -mme and -nne are parallel to the allative case -lle; and the third person -nsa ~ -nsä is similar to the translative -ksi and ablative -lta ~ -ltä. The 1PL Px -mme is homophonous

with the 1PL verb suffix -mme.

The Px undergo the (word-internal) phonological rule of vowel harmony. Since i and e are "neutral" with respect to harmony, only -nsA is relevant. (A is an archiphoneme representing the a ~ ä alternation resulting from vowel harmony.) Thus we find -nsa in back vowel words:

kirja-nsa ~ *kirja-nsä
book - 3
'his book'

(cf. kirja-ssa ~ *kirja-ssä 'in the book')
book -INES

and -nsä in front vowel words:

kynä-nsä ~ *kynä-nsa
pen - 3
'his pen'

(cf. kynä-llä ~ *kynä-lla 'by pen')
pen-ADES

1.2. Word-external sandhi

The Px also behave like true suffixes insofar as they block three well-motivated morphophonological rules which affect final vowels of stems. First, there is a raising of word-final e to i. For example, lumi 'snow' is derived from an underlying //lume// (cf. the genitive singular lume-n). The Px on this and other words does not allow the e → i raising:

lume-ni ~ *lumi-ni
snow-1SG
'my snow'

Another rule applying word-finally shortens ee to e. (Most word-final e's alternate with -ee-; the latter is considered basic here because it is less restricted in its occurrence than the nominative singular e# and the partitive singular -et-, and because it must be differentiated from the underlying e which raises to i. For a different approach to the selection of a basic allomorph see Karlsson (1983:185, 197).) The Px do not permit shortening of final ee:

herne 'pea'	NOM SG	← //hernee//
hernee-n	GEN SG	~ *herne-n
hernee-nsä	'his pea'	~ *herne-nsä

One last morphophonological rule is final vowel deletion (in some words). The following word can be motivated as having an underlying form //vanhuute//:

NOM SG vanhuus 'old age'
GEN SG vanhuude-n
ILL SG vanhuute-en
ES SG vanhuute-na

The Px permit neither final e-raising (as above) nor final vowel deletion:

Morphophonemic UR:	//vanhuute//	//vanhuute-ni//
e-raising	vanhuuti	*
ti → si	vanhuusi	----
vowel deletion	vanhuus	*
	/vanhuus/	/vanhuuteni/

The following words have consonantal stems for the NOM SG and PART SG, but vocalic stems for all other numbers and cases. It is not clear whether they involve the final vowel deletion needed above, or a vowel (e) insertion rule. Both approaches have been taken in the literature[3].

NOM SG	GEN SG	Morphophonemic stem
saapas 'boot'	saappaa-n	//saappasa-// or //saappase-//
kyynel 'tear'	kyynele-n	//kyynele//
manner 'continent'	mantere-n	//mantere-//
elin 'organ'	elime-n	//elime-//
neitsyt 'virgin'	neitsye-n	//neitsyte-//
lurjus 'rascal'	lurjukse-n	//lurjukse-//

The Px always take the vocalic stem; final vowel deletion fails to apply (or else e insertion before suffixes does apply): saappaa-nsa 'his boot', kyynele-nsa, mantere-nas, elime-nsa, neitsye-nsa, and lurjukse-nsa.

Thus the Px are clearly proper subparts of words. They have the status of suffixes because they undergo the morphophonological rule of vowel harmony and because, like suffixes, they do not permit the application of morphophonological rules affecting word-final vowels.

The Px fail to behave like proper subparts of words insofar as they do not undergo the following morphophonological rule. They do not trigger consonant gradation as some of them ought to, given their phonological shape. Consonant gradation "weakens" consonants in closed syllables. The Px -mme, -nne, and -nsA close the preceding syllable and hence should be expected to cause consonant gradation; but they do not. Compare, for example, the 1PL subject-verb agreement suffix with the homophonous 1PL Px:

lentä-ä	'to fly'
lennä-mme	'we fly'
lintu	'bird'
lintu-mme	'our bird' ~ *linnu-mme

The suffix -mme closes the syllable, triggering the nt → nn consonant gradation in 'we fly'; the clitic -mme fails to trigger consonant gradation

in 'our bird' even though it, too, closes the syllable.

1.3. Truncation

The Px, unlike any other morpheme in Finnish (even other clitics), condition a truncation rule. Final consonants get deleted when immediately preceding a Px:

lintu-ni	←	lintu-ni NOM SG 'my bird' bird-1SG
	←	lintu-t-ni NOM PL 'my birds' bird-PL-1PL
	←	lintu-n-ni GEN SG 'my bird's, of my bird'

Since NOM PL t and GEN SG n otherwise cause consonant gradation, it is clear that this truncation takes precedence over consonant gradation (so as to avoid *linnu-ni in the NOM PL and GEN SG)[4].

If there is an e-insertion rule (as opposed to an e-deletion rule), then this rule takes precedence over truncation.

//lampas-ni//		//lampas-ni//	
truncation	lampa-ni	e-insertion	lampase-ni
e-insertion	---	truncation	---
	*lampani	other rules	. . . lampaa-ni

Essentially the point here is to avoid truncation of root-final consonants: lammas 'sheep', manner 'continent', elin 'organ', etc.

Truncation also affects the final consonants of the GEN PL, the ILL SG and PL, the INSTR, and the second infinitive (2INF):

GEN PL	lintu-je-n	'of the birds'
	lintu-je-ni	'of my birds'
ILL SG	lintu-un	'into the bird'
	lintu-u-ni	'into my bird'
ILL PL	huone-i-siin	'into the houses'
	huone-i-sii-ni	'into my houses'
INSTR	om-in voim-in	'with one's own strength'
	own-INSTR strength-INSTR	
	om-in voim-i-ni	'with my own strength'
2INF	näh-de-n	'by seeing'
	näh-te-ni	'by my seeing'

2. Morphological facts

With respect to their ordering within words, the Px resemble clitics. However, with respect to allomorph selection, they behave, as in phonology, like proper subparts of words, both conditioning and exhibiting special allomorphy.

2.1. Linear ordering

The Px lie outside all derivational and inflectional morphology (e.g. case and number morphemes):

ma-i-ssa-mme
land-PL-INES-1PL
'in our lands'

syö-dä-kse-mme
eat-1INF-TRANS-1PL
'(in order) for us to eat'

The only morphemes permitted to follow the Px within he word are other clitics, for example the sentential operator clitics:

auto-lla-nsa-ko
car-ADES-3-Q
'by their car?'

Also permitted to follow is the directional adverb päin (a simple clitic or a leaner -- note the absence of vowel harmony):

koti-i-nsa-päin (from Penttilä 1957:123)
home-ILL-3-direction
'in the direction of his home'

Thus, the Px can be seen as the first of the clitic string attached to the host.

2.2. Stem allomorph selection

The Px are not like other clitics in determining stem allomorphy. The other clitics attach to any (inflected) stem, with no special allomorphy, and do not have phonological effects as the Px did above.

lammas	'sheep (NOM SG)'
lammas-kin	'the sheep, too'
lammas-han	'the sheep, you know'
lampaa-lla-kin	'on the sheep, too'
etc.	

The Px, in contrast, require the oblique stem and cannot attach directly to the NOM SG stem ending in a consonant (as I remarked above):

lampaa-ni 'my sheep' ~ *lammas-ni

In the morphologically determined allomorphy of -nen ~ -se-, the Px attach to the basic -s(e)- allomorph, not to the NOM SG -nen (although the other clitics attach to -nen):

Suomalainen 'a Finn (NOM SG)'
Suomalainen-han, -pa, -ko, -kin, etc.
Suomalaise-si ~ *Suomalainen-se ~ *Suomalaine-si 'your Finn' (cf. GEN SG Suomalaise-n)

I conclude that for stem allomorphy selection the Px behave like proper subparts of words rather than like the less integrated particle clitics.

2.3 Px allomorphy

Some of the Px have unusual allomorphy. The first and second person plural -mme and -nne are invariable, but the other three Px have allomorphs that begin with vowels and end in consonants:

1SG -ni ~ -in
2SG -si ~ -is
3 -nsA ~ -Vn (where V repeats the final vowel of the host)

The vowel-final allomorphs are restricted variants, found only after suffixes ending in a vowel. (The exact statement of the allomorphy rule is difficult because the underlying shape of the partitive suffix is indeterminate.) Since the VC-allomorphs must follow a vowel, the NOM PL, GEN SG, GEN PL, INSTR, and 2INF suffixes do not cooccur with them.

The VC-allomorph also follows only a suffix, never a root, even if the root meets the phonological requirements. For example, the root talo 'house' ends in a vowel, but *talo-is is not permitted, only talo-si 'your house'. It is also clear that only inflectional suffixes suffice to trigger the VC-allomorph; derivational suffixes do not. Thus in the three infinitives[5] and the two participles, the CV shape of the suffixes still does not permit a VC-allomorph for the Px, because the suffixes in question are derivational suffixes.

The VC-allomorphs, then, are found after inflectional affixes ending in vowels. There is, however, a further restriction on the occurrence of the VC-allmorphs. The problem lies in the partitive singular: the VC-allomorph of the Px is allowed after partitives in -CA and after certain -A partitives, but not after a root -A followed by the partitive -A. One solution to this problem is to posit a filter which rules out the configuration $\ldots A_{root}\ ]\ -A-\ [VC_{Px}]$ (e.g. allowing tila-a-nsa 'his state (PART)' but not *tila-a-an).[6]

This well-formedness constraint is a morphological restriction on the cooccurrence of allomorphs. It cannot be strictly phonological, because sequences of three vowels do occur in Finnish, e.g. raaka 'raw' with genitive raa'an (note loss of k through consonant gradation). At the

morphlogical level three vowels are likewise permitted (e.g. maa + i + ta 'land + PL + PART'), but they undergo a phonological rule which shortens the cluster (i.e. ma-i-ta 'lands (PART PL)'). Pertti Pyhtilä (p.c.) has suggested that the constraint is one of syllabification, since a form like raa'an consists of two syllables, but *tila-a-an and *tila-a-in would consist only of two, not three, syllables.

In all forms the basic (C)CV-allomorphs are possible, but whenever the VC-allomorphs are available they are preferred. The reader is referred to Appendix II for a list of relevant forms.

Note that the Px allomorphy rule interacts with the truncation rule of section 1.3 in a counterfeeding manner. The consonant truncation rule potentially feeds the VC-allomorphy, yet it does not. This interaction falls out of a theory in which all morpholexical rules (e.g. VC-allomorphy) take precedence over all morphophonemic rules (e.g. truncation):

	//talo-on-nsa//		//talo-on-nsa//
TRUNCATION	talo-o-nsa	TRUNCATION	---
ALLOMORPHY	talo-o-on	ALLOMORPHY	talo-o-nsa
	*/talooon/		/taloonsa/

2.4. Summary of morphophonological facts

The following is a summary of the ordering of the morpholexical and morphophonemic rules discussed thus far. Lines indicate relevant crucial interactions; other interactions are left undetermined.

MORPHOLEXICAL:
- -nen ~ -s(e)- allomorphy
- allomorphy of Px

MORPHOPHONEMIC:
- (e- insertion)
- Truncation
- (e-deletion)
- various vowel assimilations:
  - s → h /V__V, h → ∅ ...
  - e# → i#
  - ti → si
  - Final Vowel Deletion, ee# → e#
- Consonant Gradation
- Vowel Harmony

The Px, for the most part, behave like proper subparts of the word--they condition stem allomorphy as well as several word-internal sandhi rules. With the exception of Consonant Gradation and Truncation, the Px are functionally the same as suffixes for the purposes of morphology and phonology.

3. The status of Px in the word

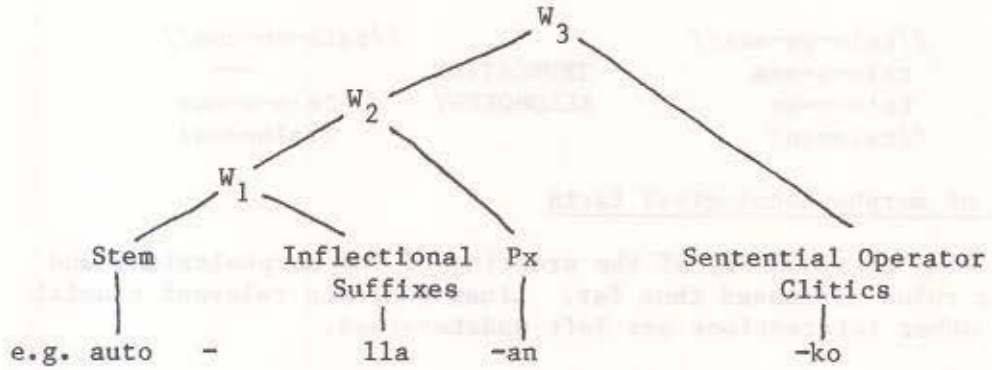
The Px have an intermediate status between the inflectional suffixes and the sentential operator clitics. They are like the former insofar as (a) they are person and number markers (often redundant markers), (b) they

condition a free deletion rule affecting pronouns, and (c) they condition similar allomorphy for the stem:

Inflectional Affix:	(Me) toivo-mme 'we hope'
1PL Px:	(Meidän) toivo-mme 'our hope'

The Px are like the sentential operator clitics in that (a) they lie outside all inflectional and derivational morphology in their attachment to the host, and (b) they fail to cause Consonant Gradation.

The Px must be kept distinct from both the inflectional suffixes and the sentential operator clitics because of the phonological and morphological idiosyncrasies presented above. For these reasons I tentatively posit a special place in the internal morphological structure of the Finnish word for the Px:



'by their car?'

The various morpholexical and morphophonemic rules can refer to the different levels of the word. Consonant Gradation, for example, has a domain of W_1, thereby appropriately excluding the effect of the Px. Vowel Harmony has a domain of W_3, thus including the Px and the sentential operator clitics. The stem allomorphy rules apply at level W_2.

Below I shall present some further evidence that the Px cliticization rules follow the late syntactic rules that assign and percolate inflectional features and that they precede the rules that place and attach sentential operator clitics (and the leaner päin 'direction').

The Px cliticizations take precedence over the cliticizations of the sentential operator clitics for three reasons. First, the Px always appear closer to the host than do the other clitics.

auto-lla-an-ko ~ *auto-lla-ko-on
car-ADES-3-Q
'by their car?'

Being closer to the host, the Px interact more frequently with the host for the purposes of morphology and phonology than do the other clitics. They are therefore more likely to lexicalize (cf. section 5.1.5.).

Second, the semantic domain of the Px is smaller than that of the sentential operator clitics: the Px operate at the phrase level, the

sentential operator clitics at the sentence level. The principle of "smaller, then larger" predicts this interaction.

A third reason is that the Px clisis rules are syntactically much like agreement and case marking rules, in that they mark features that play a role elsewhere in the syntax of the language. The sentential operator clisis rules merely determine the placement of morphemes. In this regard, the Px cliticizations point to a "clitic as feature complex" analysis, but the sentential operator cliticizations point to a "clitic as word" analysis. One possibility is that the feature-type cliticization universally takes precedence over the word-type cliticization.

At any rate, the Px cliticizations are sandwiched between the inflectional rules and the other cliticizations.

4. Stylistic facts

The Px are used mostly in formal Finnish. Colloquial Finnish has them in numerous lexicalized forms (mainly adverbs). This explains why the comitative case requires a Px: it is used in formal styles. Colloquial language prefers instead the postposition kanssa 'with':

Formal Finnish:	mies vaimo-ine-en
	man wife-COM-3
	'a man with his wife'
Colloquial Finnish:	mies vaimo-n kanssa
	man wife-GEN with
	'a man with his wife'

That the Px are stylistically marked is no problem for the analysis of these five morphemes, since their crucial syntactic interactions involve constructions that are equally marked. The relevant syntactic constructions include nonfinite verb phrases and preposed (adjectivized) relative clauses, both of which are quite formal in style.

5. Syntactic facts

The Px are clearly proper subparts of words. They represent person and number features on nominals, and as morphological features, might be expected to be assigned as inflectional features. But they cannot be considered inflectional affixes for the reasons detailed above. In addition, they fail to behave like other inflectional morphemes in the language in that they fail to undergo agreement rules. Other features associated with the NP node in Finnish (e.g. case and number) regularly show agreement (Karlsson 1977).

5.1. Host requirement

In place of full NP agreement, the Px attach only to the head of a nominal phrase,[7]

minun pieni sininen kirja-ni
my little blue book-1SG
'my little blue book'

*minun piene-ni sinise-ni kirja-ni
(cf. minun piene-ssä sinise-ssä kirja-ssa-ni
'in my little blue book')

in fact, only to certain heads of nominal phrases. They will not attach to adjectives in general; Hakulinen and Karlsson (1979:129) provide the following examples, in which an adjective is stranded as the head of an NP:

*Minä vien nämä kaksi laukkua-ni, ota sinä minun muu-ni.
I take these two bag-1SG take you my other-1
'I'll take these two bags of mine, you take my others'

*Jos sinä otat ruman solmio-si, minä otan kaunii-ni.
if you take ugly ring-2SG I take pretty-2SG
'If you take your ugly ring, I will take my pretty one.'

*Kun me olemme syöneet sinun kakku-si, jäljellä
when we have eaten your cake-2SG after

on vielä hänen kolme-nsa
is still his three-3
'When we have eaten your cake, there are still his three leftover'.

Exactly what can serve as the head of an NP for the purposes of cliticization is far from clear. Nouns can, but adjectives in general cannot. Some adverbs accept Px, as do certain nominalized verbs and most postpositions.

5.1.1. Adjectives as host

There are some exceptions to this statement. Hakulinen and Karlsson (1979:129) mention oma 'own' and the "mensual" adjectives (adjectives showing mass or comparison): arvoinen 'of value', kaltainen 'resembling', mittainen 'measuring', veroinen 'equal', etc. Pierrehumbert (1981:603) offers the following example:

Kaltaise-kse-en Jumala loi ihmisen.
like -TRANS-3 God made man
'God made man like himself.'

This subgroup of adjectives also shows different syntactic behavior from the other adjectives, insofar as they cannot appear alone, but must govern some preceding NP (or an enclitic Px, as above). Most adjectives modify a following noun and do not participate in government in this way. Hakulinen and Karlsson (1979:137) provide further examples of adjectives of this class:

kuolema-n oma
death-GEN own
'death's own, belonging to death'

karhu-n näköinen
bear-GEN looking
'(looking) like a bear'

metri-n mittainen
meter-GEN measure
'a meter long, a meter's length'

kulla-n arvoinen
gold-GEN valuable
'the value of gold, worthy of gold'

Thus, this class of adjectives seems more nominal than the prototype adjective.

It also appears possible for adjectives ending in the "independent" suffix -nen (a derivational suffix) to accept Px (Hakulinen and Karlsson 1979:129):

?Jos otat vihreän solmio-si, niin minä otan punaise-ni.
if take green ring-2SG then I take red-1SG
'If you take your green ring, then I'll take my red one.'

Punainen in this sentence seems to accept the Px more readily than kaunis 'pretty' did in parallel sentence above. This is probably because the -nen suffix is an old diminutive that is attached to form both adjectives and nouns; in some instances the word class is ambiguous. Again, the -nen adjectives give the impression of being more nominal than regular adjectives.

tyttö : tyttönen
girl little girl

rauta : rautanen
iron (N) ferrous, iron (ADJ)

suomi : suomalainen
Finland, Finnish language Finn, Finnish (ADJ)

Adjectives in the superlative and comparative accept Px more readily than their positive equivalents. The comparative and superlative are derivational suffixes attached to the adjectives.

(from Hakulinen and Karlsson 1979:129)
pukeutua parhaimpi-i-nsa
to dress best-ILL-3
'to get dressed in his best (clothes)'

(from Penttilä 1957:123)

Sauna on kuum-immi-lla-an.
sauna is hot-SUPER-ADES-3
'The sauna is at its hottest.'

Kohtasin parempa-ni.
I met better-1SG
I met my better.'

Also "exceptional" is kaikki 'all' (Hakulinen and Karlsson 1979:129):

Hän teki kaikke-nsa asian hyväksi.
he made all-3 thing good-TRANS
'He did his all to make the thing good.'

As far as I can tell, these uses of kaikki plus Px are adverbial in nature. There are numerous other adverbs in the form of ADJ + CASE + Px:

hyvillä-än 'delighted, glad, pleased' (cf. hyvä 'good')
pahoilla-an 'displeased, sorry, badly' (cf. paha 'bad')
yksinä-än 'alone' (cf. yksi 'one')
ainoasta-an 'only, merely' (cf. ainoa 'sole')
kokona-an 'entirely' (cf. koko 'entire, whole')

These usually form adverbs of manner. It is frequently these adverbs that lack person and number agreement, appearing in the unmarked Px, the third person, e.g. (from Penttilä 1957:126)

Elämme erillä-än (~ erillä-mme) maailmasta.
we live differently-3 -1PL world-EL
'We live differently from the world.'

A reasonable view of these adverbs is that they are lexicalized in the form of ADV + Px or even $_{ADV}$[ADJ+CASE+Px], with the Px determined by the sentence, or in the absence of that determination, by the unmarked 3 Px.

Returning now to the adjectives, Hakulinen and Karlsson (1979:129) and Pierrehumbert (1981:608) mention that verb forms in the third infinitive can be used as the head of an adjective phrase. The nonfinite verb acts as a true adjective by agreeing with the head noun. The agent of the verbal action appears in the genitive, preceding the verb, and therefore is a possible source fo Px. A Px may indeed occur on the 3INF verb: (from Pierrehumbert 1981:610)

Pidämme $_{ADJP}$[osta-m - i -sta-mme] tuole-i-sta.
we like buy-3INF-PL-EL-1PL chair-PL-EL
'We like the chairs we bought.'

To summarize this discussion of adjectives: Although adjectives in general do not accept Px, there exist several types of adjectives which can or must take a Px. These can be seen to be much more nominal than the prototype adjective. Some of the apparent adjective phrases appear lexicalized as adverbials, rather than as productive syntactic units.

5.1.2. Nominalized verbs as hosts

There are several other non-finite verbal forms that accept Px. All of them are nominalized forms of some sort (with the 1INF -tA, 2INF -te-, 3INF -mA-, and the "temporal" -ttu-) which are, or can be, inflected for case. The first infinitive -tA also has a "long" form with the translative case which requires a Px (e.g. juos-ta-kse-en '(in order) for him to run'~ *juos-ta-ksi without Px). The second infinitive has only two forms, both of which require a case ending, either the instrumental (juos-te-n 'by running') or the inessive (juos-te-ssa 'in running, while running'). The third infinitive has several inflected forms, but only the "agentive" (= adjectival use, above) and the abessive (juokse-ma-tta(-an) 'without (his) running') accept the Px. The other inflected third infinitives apparently lack the appropriate syntactic sources.

Finally, the "temporal" construction in -ttu- has only one form, the partitive:

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saavu- ttu - a  - an      'his having arrived'
arrive-IMPER-PART-3
       PAST
       PRTC
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This form, Hakulinen and Karlsson (1979:389) argue, is lexicalized and not generated by regular rules of Finnish, since its syntactic source would have two deeper subjects: the impersonal -ttV- and the genitival pronoun that becomes the Px. Elsewhere in the language, Px and impersonals cannot cooccur (for the reason that subject pronouns and impersonal forms do not cooccur). Also, the meaning of the temporal construction is not impersonal, but personal. Note, however, that although this construction is argued to be lexicalized, the partitive -a- must be retained as a discrete unit because it satisfies the conditions necessary for the VC-allomorphy rule (see section 2.3).

All of the verbal forms mentioned in this section act as nominals: adjectives, adverbials, and infinitival heads of embedded S-clauses.

5.1.3. Adpositions as hosts

Px can also attach to most postpositions:

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minun ympäri-llä-ni          'around me'
my    around-ADES-1SG

minun ympäri-lle-ni          '(to) around me'
my    around-ALL-1SG

minun ympäri-ltä-ni          'from around me'
my    around-ABL-1SG
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They do not attach to prepositions, since these govern partitive NPs (not a source for the Px). And there are some postpositions that do not accept the Px; these either have partitive NPs or do not accept any person,

number, and case morphemes at all. Postpositions requiring a preceding genitive NP, but not having inflected forms, do not accept Px, e.g.

läpi 'through'
ohi 'past' (but *minun ohi-ni ~ minun ohi 'past me')

Striking is the difference between the inflected postposition luokse- 'to the side of' and luo ibid., the latter being without inflection:

(minun) luo-kse-ni 'to me' ~ minun luo 'to me'
* minun luo-ni

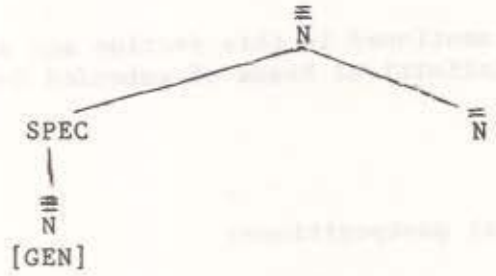
5.1.4. Adverbs as hosts

Finally, there are a number of lexicalized adverbs that accept Px. These take the form of NOUN + CASE + Px and are treated in the same manner as the adverbs mentioned above (with the form ADJ + CASE + Px), e.g.

koto-na-ni 'at my home' (cf. koti 'house')
home-ES-1SG

5.2. Syntactic source for Px

The distinction between adverbials, postpositional phrases, noun phrases, and even non-finite verb phrases and adjective phrases is often blurry (Hakulinen and Karlsson 1979:154). They all share the property of being nominals and having case. Under Jackendoff's (1981:54) X-bar treatment, nominals are the same as N'' and share the N''' node with a specifier. In the constructions under consideration, this specifier is always filled with a genitive NP.



The syntactic source for the Px is clearly a genitive pronoun in specifier position. For the purposes of syntax the Px behave as if they preceded the host NP and were genitive pronouns. In this position the Px condition such rules as object case marking.

In the framework of strict autonomy to which I adhere, all syntactic rules take precedence over all cliticization rules, which in turn precede all of morphology and phonology. Thus the Px have their origin as genitival pronouns, and after syntax, cliticize onto their hosts so that the components of morphology and phonology may refer to the various levels of the word, including that level containing the Px (see Nevis 1981:fn. 6

for details).

Note that the syntactic source is before the host, but the morphological/phonological location is after (enclitic to) the host. This is characteristic of all clisis rules in Finnish. The separation of the syntactic and morphophonological facts about clitics (elaborated by Klavans (1980)) falls naturally out of a theory of autonomous components.

5.3. Pierrehumbert's analysis

Pierrehumbert (1981) uses Jackendoff's X-bar framework to capture relevant facts about the syntactic behavior of the Px. She argues that the syntactic source of the Px in Finnish is a genitival, reflexive pronoun in specifier position in X'''. She does not have to refer to N''' specifically, but assumes that this rule applies to verb phrases, adjective phrases, and sentential clauses.

Genitival, reflexive pronouns not in specifier position cannot act as a source for Px:

Minun täytyy lähteä. 'I must leave.'
my must leave

*minun täytyy-ni lähteä

Sinun kiusaamise-n täytyy loppua.
your teasing-GEN must stop
'Your teasing (=teasing of you) must stop.'

*Sinun kiusaamise-si täytyy loppua.

Sinu-n Mati-n kutittamise-n täytyy loppua.
you-GEN Matki-GEN tickling-GEN must stop
'Your tickling of Matti must stop.'

~Sinu-n Mati-n kutittamise-si täytyy loppua.

In the last example, sinun 'your' is in specifier position (as the subject of the nominalized verb here) and is allowed to be a source for the Px -si. The other examples have genitives, but they are not in specifier positon; rather, they are acting as objects or indirect objects. For this reason the genitive pronouns in the first two examples above cannot act as source for a Px.

Pierrehumbert is particularly interested in arguing that the Px are not simply copied agreement markers of a genitive specifier and that they are "allomorphs" of the reflexive pronoun. In particular, she argues against a traditional (but unarticulated) analysis whereby genitive pronouns in attribute positon get copied and adjoined to the head of the phrase. In some instances the independent genitive pronoun can be deleted. Pierrehumbert exemplifies this in her (33):

(33) Hänen$_i$ hermostumisen Jorma$_i$ unohti.
his loss of nerve Jorma forgot

copying and adjunction:

Hänen$_i$ hermostumise-nsa$_i$ Jorma$_i$ unohti.

deletion under coreference:

Ø Hermostumise-nsa$_i$ Jorma$_i$ unohti.

'His loss of nerve Jorma forgot.'

5.3.1. Anaphora facts

Pierrehumbert is also concerned with the conditions relevant to deletion under coreference. This deletion is optional only for first and second person pronouns, and only in APs, PPs, and NPs. In participles (she calls them VPs), either a genitive pronominal subject appears or a Px, but not both. (The numbering of examples is taken directly from Pierrehumbert 1981).

1) a. Sanoin pitä- vä - ni siitä.
I said like-PPRC-1SG it
'I said I like it.' (lit. 'I said my liking it.')

*Sanoin minun pitä-vä-ni siitä.
my-GEN

(but cf. Sanoin hänen pitä-vä-n (*-nsä) siitä.
'I said his liking it.')

The third person pronoun has obligatory coreference deletion under identity with some other NP, obligatory retention under nonidentity:

He tulevat (*heidän) auto-lla-an.
they come their car-ADES-3
'They are coming in their (own) car.'

He tulevat heidän (*Ø) auto-lla-an
they come their car-ADES-3
'They are coming in their (someone else's) car.'

Contrary to the above situation of deletion under coreference, only personal pronouns are found in the doubled construction; inanimate and interrogative pronouns are never found doubled (6).

(6) a. Rahasumma vieläkin odottaa (*sen) omistajaa-nsa
money still awaits its owner-3
'The money still awaits its owner.'

Sen omistaja (*-nsa) on munkki.
its owner -3 is monk
'Its owner is a monk.'

Finally, first and second person genitive pronouns can occur without coreference to another NP, but the third person cannot.

(7) Serkku-ni kanssa on aina hauskaa.
cousin-1SG with is always nice
'With my cousin one always has a nice time.'

(8) *Serkku-nsa kanssa on aina hauskaa.
cousin-3 with is always nice
'With his/her cousin one always has a nice time.'

In this section I have mentioned the complexities of the occurrence of the Px and their genitival pronominal sources. A distinction is to be made between the doubled construction (see section 5.4.3) and the coreference construction (section 5.4.2).

5.3.2. Pierrehumbert's arguments

Pierrehumbert's first argument that the Px are allomorphs of reflexive itse 'self' is that the Px are reflexive in reference. Her second argument is that the Px are in complementary distribution with the reflexive morpheme itse with respect to specifier position. She posits the following "allomorphy" rule:

(30) $\begin{bmatrix} \text{PRO} \\ +\text{reflexive} \\ +\text{genitive} \end{bmatrix} \longrightarrow \text{POSS} \;/\; {}_{X'''}[(\text{article})\_\_\_\_$

$\longrightarrow$ itse + case + POSS / elsewhere

And then Pierrehumbert has a cliticization rule:

(31) $_{X}$ ''''[(article) POSS Y head

1 2 3 4 ---> 1 3 4+2

Pierrehumbert suggests that it is possible that the "allomorphy" rule, her (30), is governed entirely by syntactic factors and has no lexical exceptions. This would be a surprising sort of allomorphy rule. But in fact it is not a true allomorphy rule--it does not determine the shape of allomorphs (or even morphemes), and so seems to be some sort of syntactic rule. Since it manipulates syntactic features, one would expect syntactic conditions, and not lexical exceptions. Even if one considers the Px as reflexive clitics, clitics typically combine into lexicalized units less easily than proper subparts of words, in particular, inflectional affixes, do; see Zwicky and Pullum 1983.

Now it is apparent that Pierrehumbert is dealing with a late syntactic rule that alters morphosyntactic features (rule 30) and a clitic adjunction

rule that determines the placement of the Px (rule 31). These two rules are in the proper order for a syntactic and a cliticization rule: the syntactic rule precedes the clisis rule.

Pierrehumbert still has to account for the appearance of "doubled" forms, as in her (40-43), so she posits a "doubling" rule (57).

(40) Sinun hermostumise-si Jorma unohti.
your(GEN) loss of nerve-2SG Jorma forgot
'Your loss of nerve Jorma forgot.'

(41) Tuo puku sopii $_{A}$'''[sinun ikäise-lle-si] naise-lle.
that dress suits your age-ALL-2SG woman-ALL
'That dress suits a woman of your age.'

(42) Pidämme $_{A}$'''[sinun osta- m - i-sta-si] tuole-i-sta.
we like your buy-3INF-PL-EL-2SG chair-PL-EL
'We like the chairs you bought.'

(43) Jorma valitsi Marin sinun sijalle-si.
Jorma chose Mari your in place of -2SG
'Jorma chose Mari in place of you.'

(57) "Doubling Rule"

$$[+N]'''[(\text{article})\ \begin{bmatrix} \text{pronoun} \\ +\ \text{human} \\ -\ \text{interrogative} \\ -\ \text{reflexive} \\ \text{etc.} \end{bmatrix}$$

$$1 \qquad 2 \longrightarrow \qquad 1 \quad 2 \quad 2$$

$$[+\ \text{refl.}]$$

This rule must feed rule (30) so as to get the right results:

(57) "Doubling"
(30) "Allomorphy"
(31) Cliticization

But doubling of pronouns, especially of pronouns that will end up as clitics, is usually captured in a clitic copying rule. Now we have the following schema:

(57) Clitic Copying
(30) Syntactic Feature Manipulation
(31) Clitic Adjunction
later "Unemphatic Pronoun Drop"

With this reinterpretation, we have an apparent malordering for the autonomous components framework: A syntactic rule is sandwiched between two cliticization rules.

5.3.3. Criticisms

This malordering is avoidable, however. I believe, first of all, that Pierrehumbert's "Allomorphy" rule is wrong. Complementary Distribution arguments are not used very often in syntax, and, even so, this one fails. The reflexive itse and the Px do cooccur to a great degree. The only apparent place they cannot cooccur is in the specifier position, where itse does not occur at all. Using this argumentation, Pierrehumbert could just as easily have called the Px allomorphs of some reflexive verb, since such verbs do not occur in specifier positon either. Notice that itse 'self' and the Px cooccur in nearly any overtly reflexive form:

itse-lle-si
self-ALL-2SG
'to yourself'

The itse morpheme is indicating reflexive meaning here, and the Px -si is marking person and number for that reflexive reference (as well as redundant reflexive meaning).

Furthermore, the statement of (57) is rather ad hoc. Pierrehumbert has to force a feature change from [- reflexive] to [+ reflexive] in the personal pronouns in order to make them undergo rules (30) and (31).

Pierrehumbert does succeed in presenting an analysis in which the doubling of pronouns is distinct from the cliticization involved in the other uses of the Px. It turns out that no Px ever occurs without coreference to another NP (before the free deletion of first and second person pronouns). Thus all Px are anaphors: They have no independent reference, but take their reference from some antecedent (Radford 1981: 364). (The only exceptions to this statement come from the lexicalized forms mentioned in section 5.1.[8])

Pierrehumbert attempts to capture these facts in her rules, but ends up with ad hoc descriptions, connecting the reflexive itse morpheme with the person and number clitic markers. I will connect them, too, but in a less direct manner; they are both anaphors.

5.4. Revised analysis

Following a description of Chomsky's Semantic Interpretation Rules outlined by Radford (1981), I will present an account of the Px which falls out of Chomsky's Binding Conditions. This will require that an indexing rule (assigning an index to every NP in a sentence) precede cliticization. It will not matter to my analysis where exactly the Semantic Interpretation Rules go in the grammar, so long as they precede cliticization. For the purposes of this paper I will follow Chomsky's model, in which they follow Case Rules (surface syntax) and Transformational Rules (relational syntax) (Radford 1981:363).

5.4.1. Binding

Radford distinguishes three types of NPs (1981:364-7): anaphors, pronouns, and lexical NPs. An anaphor has no independent reference, but is "bound" in its "governing" category (i.e. must refer to another N within the clause). A pronoun either takes its reference from some other NP or refers independently, and it must be "free" in its governing category if it has one. A lexical NP refers independently and is "free" everywhere.

He also has an indexing rule that assigns every NP an index through which any random pair of NPs can be either coreferential or noncoreferential (Radford 1981:366). In addition there is a Matching Condition that requires NPs assigned the same index to agree in person and number features. This latter filter rules out a sentence such as

*Minä$_i$ sanoin pitä-vä-nsä$_i$ siitä.
I said like-PPTC-3 it
'I said himself liking it.'
cf. Minä sanoin hänen$_i$ pitä-vä-nsä$_i$ siitä.
'I said his liking it'

because the Px -nsä is anaphoric and must refer to another NP, minä, but does not agree in person with it. But the following sentence is acceptable, since the anaphor -ni is coindexed for its c-commanding NP minä and agrees in person and number with it:

Minä$_i$ sanoin pitä-vä-ni$_i$ siitä.
I said like-PPTC-1SG it
'I said I like it. (I said my liking it.)'

The Px are anaphoric because they are coindexed with a c-commanding argument (i.e. bound) and because they always agree in person and number with that argument (which must be a clausemate of the anaphor). In all the following sentences, offered by Pierrehumbert (1981:603), the anaphor is coindexed with a clausemate, c-commanding NP, and agrees with it in person and number:

He$_i$ tulevat $_{NP}$[auto-lla-an$_i$].
they come car-ADES-3
'They are coming in their (own) car.'

$_{AP}$[Kaltaise-kse-en$_i$] Jumala$_i$ loi ihmisen.
like-TRANS-3 God made man
'God made man like himself.'

$_{PP}$[Lähellä-än$_i$] Jorma näki käärmeen.
near-3 Jorma saw snake.
'Near himself Jorma saw a snake.'

Since in the majority of cases the Px is coreferent to a subject NP, it follows that no Px can attach to a subject NP. The only exceptions come from the first and second person doubled constructions discussed below. In all the third person instances, the 3 Px refer to subject NPs and lack a

genitival antecedent in specifier position, e.g.

*He$_i$ tulevat heidän$_i$ autolla-an$_i$.
they come their car-ADES-3

He$_i$ tulevat autolla-an$_i$.
they come car-ADES-3
'They are coming in their (own) car.'

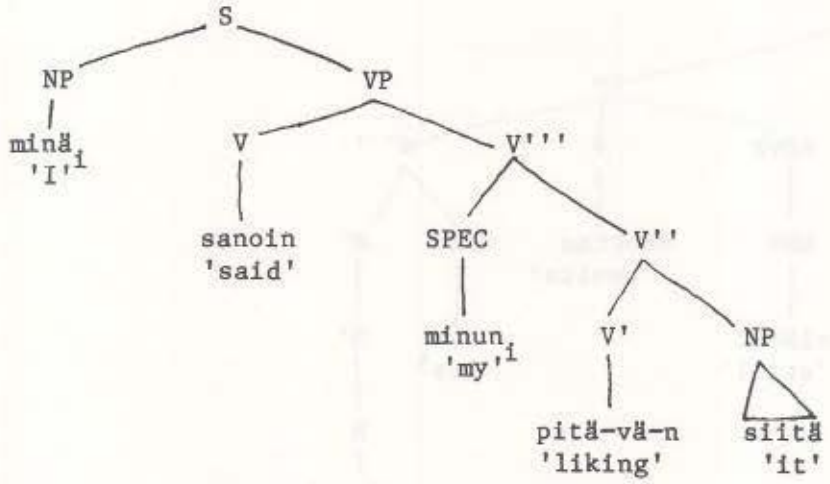
When a genitival pronoun appears in specifier postion, the Px is not coindexed with the subject NP:

He$_i$ tulevat heidän$_j$ autolla-an$_j$.
'They are coming in their (someone else's) car.'

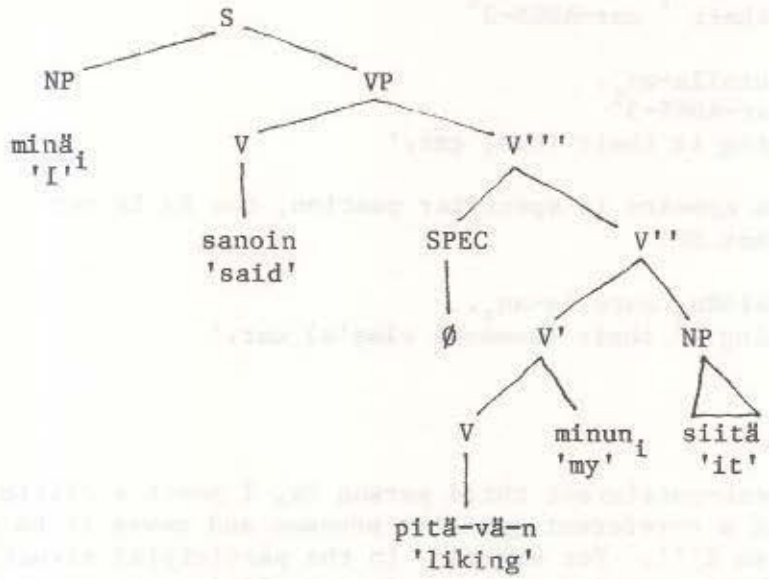
5.4.2. Clitic Movement

To handle the subject-coreferent third person Px, I posit a clitic movement rule that takes a coreferent genitive pronoun and moves it to a spot after the head of an X'''. For example, in the participial structure, which requires a coreferent genitive, the coreferent clitic movement takes a morpheme minun$_i$ out of SPEC position and attaches it to the head word pitä-vä-n.

Before Cliticization:

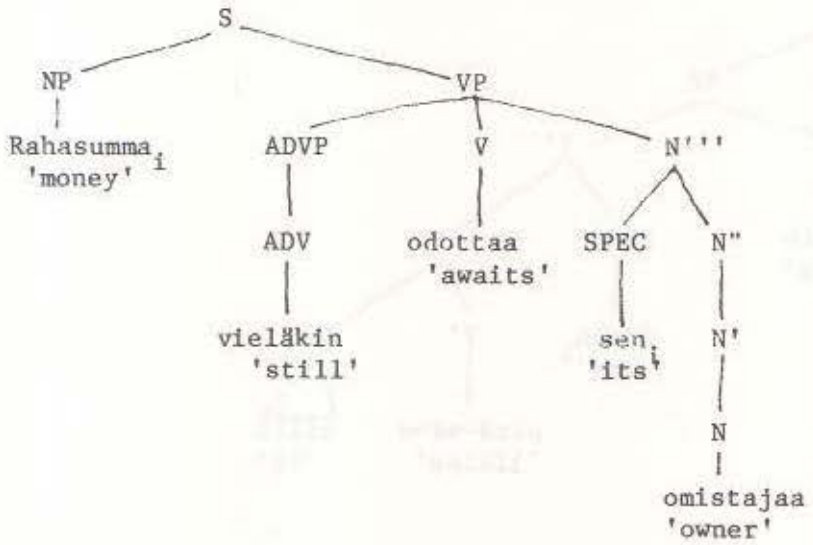


After Cliticization:



Allomorphy the selects a Px allomorph instead of a genitive pronoun.

The same holds for the structure



in which the pronoun sen$_i$ will be cliticized onto the head of its NP, omistajaa. Being third person, this morpheme will be realized as -nsA or -Vn:

Rahasumma$_i$ vieläkin odottaa (*sen) omistajaa-nsa$_i$.
'The money$_i$ still awaits its owner.'

Lexical NPs are never moved via this rule, because they are never coreferent to c-commanding, governing NPs:

Mati-n vaimo
Matti-GEN wife
'Matti's wife'

*Mati-n vaimo-nsa
*vaimo-nsa

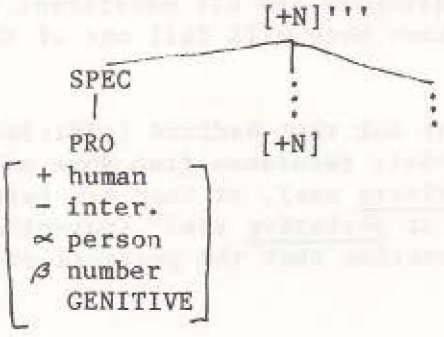
5.4.3. Clitic doubling

The clitic movement rule is not satisfactory for first and second person pronouns or for noncoreferent third person pronouns, because they can appear in a phrase alongside their Px:

minun talo-ni
my house-1SG
'my house'

meidän talo-ssa-mme
our house-INES-1PL
'in our house'

I treat the doubled constructions differently from the movement constructions. For the doubled clitics, I posit a copying rule that copies person and number features from the SPEC positon. This rule is restricted to postpositional, adjectival, and noun phrases. It is never possible to double a genitive pronoun with a verb (i.e. from a V''' SPEC). So, following Pierrehumbert (1981:617), I will restrict this cliticization to [+N]. The structure to which copying applies is



The copying rule then reproduces the person and number features of a genitive noninterrogative human personal pronoun on the head of the [+N]''', namely [+N].

Interrogative and inanimate pronouns must be ruled out in copying because of the following examples (from Pierrehumbert 1981:615):

kene-n vaimo ~ *vaimo-nsa
who-GEN wife wife-3
'whose wife'

se-n omistaja	*omistaja-nsa
it-GEN owner	owner-3
'its owner'	

5.4.4. Rule interaction

How do the two cliticization rules interact? The movement rule has to take precedence over the copying rule in order to bleed it, and to prevent the copying of coreferent third person pronouns.

UR	He_i tulevat $heidän_i$ autolla
	they come their car-ADES
COPYING	He_i tulevat $heidän_i$ $autolla\text{-}an_i$
MOVEMENT	(not applicable)
SURFACE	*He_i tulevat $heidän_i$ $autolla\text{-}an_i$.

UR	He_i tulevat $heidän_i$ autolla
MOVEMENT	He_i tulevat Ø $autolla\text{-}an_i$
COPYING	(not applicable)
SURFACE	He tulevat autolla-an.
	'They are coming in their (own) car.'

The copying rule could be modified by the addition of the feature [-coreferent] or some other feature (as Pierrehumbert 1981:616 does). But if the coreferent movement cliticization applies first, then the copying rule need not even be restricted to [+N]''', but can be more general, applying to X'''. The V''' instances are all coreferent structures, and the lack of doubled constructions here will fall out of the rule interaction.

It is interesting to point out that Radford (1981:364-5) says that pronominals "can either take their reference from some other NP (this is called their anaphoric or proximate use), or they can refer independently (this is called their deictic or obviative use)" [parentheses and emphasis his]. It is in this latter function that the personal pronouns undergo the clitic copying rule.

5.4.5. Comparative evidence for separation of rules

There is some evidence to suggest that the separation of the two cliticization rules is the correct approach. In neighboring languages and dialects, the Px are less productive or even entirely unproductive. They generally have two disparate functions: as vocatives and as reflexives. This is the situation in Lappish (Collinder 1957:194) and Votic (Ariste 1968:57), and apparently was the situation in Estonian in an earlier stage of the language. The vocative use of the Px corresponds to the clitic copying rule in Finnish, and the reflexive use corresponds to the coreference movement cliticization.

Collinder's view of the Lappish Px as "enclitic possessive pronouns"

(1957:193) suggests that a system of anaphoric clitics should be reconstructed for Common Finnic (ca. 1000-500 B.C.), complete with the clitic copying and clitic movement rules. Finnish, and to a lesser degree Lappish, would then be conservative in retaining this system.

5.4.6. Summary

I have discussed the following rules:

Chomsky's Semantic Interpretation Rules (Indexing, Matching Conditions, Binding Conditions, etc.)
Coreferent Clitic Movement
Clitic Copying (of noninterrrogative personal pronouns)

It is crucial that the Semantic Interpretation Rules take precedence over the cliticization rules and that the clisis rules are premitted reference to their indexing.

5.5. Free deletion

One final fact needs to be accounted for, and this is the optional deletion of first and second person genitive pronouns in the doubled construction:

(minun) serkku-ni kanssa
my cousin-1SG with
'with my cousin'

Generally the genitive is retained if it is emphasized; otherwise it is dropped. Pierrehumbert points out the parallels with the dropping of the nominative first and second person subject pronouns:

(Minä) mene-n kotiin.
I go-1SG home
'I am going home.'

Again, the subject pronoun is retained under emphasis, otherwise dropped. The parallel is striking when one considers the fact that in neither free deletion is the third person pronoun deleted. In all likelihood the two deletions ought to be combined into one rule at a fairly late stage in the grammar (e.g. morphology).

6. Conclusion

I have argued that the Possessive Suffixes of Finnish are neither possessive nor suffixes, but anaphoric clitics that are derived through one of two clisis rules: (i) clitic movement and (ii) clitic copying of a genitive pronoun in specifier position.

Syntactically the Px behave like full genitival pronouns, conditioning case marking rules and undergoing Semantic Interpretaton Rules. Morpholog-

ically the Px are part of the word, conditioning a free deletion rule, allomorphy rules, and several morphophonemic rules, and undergoing the phonological rule of Vowel Harmony. They do not, however, condition Consonant Gradation, and therefore are not as closely associated with the stem as are regular inflectional affixes. (See Appendix III for a list of all the rules discussed in this paper.)

I have categorized clitics in Finnish into at least two classes: the Px and the sentential operators. These two types of clitics operate on different domains and behave divergently in their morpholexics and morphophonemics. The Px are most compatible with a "clitic as feature" analysis whereas the sentential operators are most compatible with a "clitic as word" analysis. The former take precedence over the latter.

I have also made the claim that Semantic Interpretation Rules must precede cliticization in Finnish, and now speculate that this claim is to be generalized to all languages.

This analysis, then, incorporates the insights of Pierrehumbert's approach--separating the cliticization of coreferent pronouns from the copying of noninterrogative noncoreferent personal pronouns, and recognizing the parallel between the genitive and nominative free deletions of first and second person pronouns--but avoids the malordering and ad hoc qualities of Pierrehumbert's treatment.

APPENDIX I. List of abbreviations.

NOM - nominative
GEN - genitive
PART - partitive
ES - essive
TRANS - translative
INES - inessive
EL - elative
ILL - illative
ADES -adessive
ABL - ablative
ALL - allative
ABES - abessive
INSTR - instrumental
COM -comitative
1INF - first infinitive
2INF - second infinitive
3INF - third infinitive
PL - plural
SG - singular
IMPERS - impersonal
PPTC - past participle
PRTC - present participle

APPENDIX II. Chart of Px allomorphs (excluding the nominative singular).

		Suffix ending in -V	Other suffixes
SG	GEN	*	talo-nsa
	PART	talo-a-an	talo-a-nsa
	INES	talo-ssa-an	talo-ssa-nsa
	EL	talo-sta-an	talo-sta-nsa
	ILL	*	talo-o-nsa
	ADES	talo-lla-an	talo-lla-nsa
	ABL	talo-lta-an	talo-lta-nsa
	ALL	talo-lle-en	talo-lle-nsa
	ES	talo-na-an	talo-na-nsa
	TRANS	talo-kse-en	talo-kse-nsa
	ABES	talo-tta-an	talo-tta-nsa
PL	NOM	*	talo-nsa
	GEN	*	talo-je-nsa
	PART	talo-j-a-an	talo-j-a-nsa
	INES	talo-i-ssa-an	talo-i-ssa-nsa
	EL	talo-i-sta-an	talo-i-sta-nsa
	ILL	*	talo-i-hi-nsa
	ADES	talo-i-lla-an	talo-i-lla-nsa
	ABL	talo-i-lta-an	talo-i-lta-nsa
	ALL	talo-i-lle-en	talo-i-lle-nsa
	ES	talo-i-na-an	talo-i-na-nsa
	TRANS	talo-i-kse-en	talo-i-kse-nsa
	ABES	talo-i-tta-an	talo-i-tta-nsa
	COM	talo-i-ne-en	talo-i-ne-nsa
	INSTR	*	talo-i-nsa

	Suffix ending in -V	Other suffixes
VERBS:		
1INF	*	%juos-ta-nsa
1INF (TRANS)	juos-ta-kse-en	juos-ta-kse-nsa
2INF (INSTR)	*	näh-te-nsä
2INF (INES)	juos-te-ssa-an	juos-te-ssa-nsa
3INF	*	juokse-ma-nsa
3INF (ABES)	juokse-ma-tta-an	juokse-ma-tta-nsa
TEMPORAL	juokse-ttu-a-an	juokse-ttu-a-nsa
ACT. PRES. PART.	*	juokse-va-nsa
ACT. PAST PART.	*	juos-see-nsa

APPENDIX III. Rule ordering and interaction.

Grammatical Component	Rules
SYNTAX	
SEMANTIC INTERPRETATION	Indexing Matching Conditions Binding Conditions
CLITICIZATION	Clitic Movement Clitic Copying Sentential Operator Clitic Placement
MORPHOLEXICS	-nen ~ -se- Allomorphy Px Allomorphy Free Deletion of First and Second Person NOM and GEN Pronouns
MORPHOPHONEMICS	(e-insertion) Truncation (e-deletion) e# → i# Final Vowel Deletion, ee# → e# Vowel Harmony Consonant Gradation

Footnotes

[1]The analysis of the Px as clitics is not controversial or innovative. Many scholars have recognized the special status of these morphemes; thus, Collinder (1965:40) uses the term "enclitic", and the Finish term liite in omistusliite 'possession clitic, Px' can be translated as 'clitic' (cf. Hakulinen and Karlsson (1979:73,90), among others). However, many earlier scholars failed to recognize the clitic status of the Px (among them Hakulinen (1961:78-81)), and many who do recognize this status do not explore the topic in any detail (e.g. Hakulinen and Karlsson 1979:section 7.4.2).

Setälä (1960:87-8) and Lindén (1959) mention the division of the Px into two rules, so that Pierrehumbert cannot, historically, be said to be the orginator of this distinction. But she has significantly contributed to the explicitness with which the rules are stated.

[2]Many of the rules described here and in section 1.2 are morphological in nature (cf. Karlsson 1982). However, the tradition in the generative framework (which I follow in this paper) treats these rules as (morpho)phonological. Their character is still a matter of some controversy; see, for example, Campbell (1975) about the epenthesis/deletion of e.

[3]See Campbell (1975) for a discussion of the two approaches to the insertion/deletion of e and for arguments in favor of e-deletion. Karlsson (1983), however, has e-epenthesis as a part of his morpholexical consonant alternations.

[4]The rule ordering established here is dialect-particular. In the Iitti dialect as described by Mark (1923) and Lindén (1959), the ordering is reversed: Consonant Gradation takes precedence over Truncation. As a result, the NOM PL and GEN SG have "weak" stems rather than the "strong" stems of the standard dialect. Thus one finds the following (partial) Px paradigm:

	NOM SG	NOM PL	GEN SG
1SG	tupa-m	tuva-in	tuva-in
2SG	tupa-s	tuva-ns	tuva-ns
1,2PL	tupa-nne	tuva-nne (~ tupa-nne)	tuva-nne

Note the different allomorphy of the singular Px--1SG -m and 2SG -s in the NOM SG, elsewhere 1SG -in and 2SG -ns. Two example derivations are given below:

2SG-GEN SG:	//tupa-n-ns//
CONSONANT GRADATION	tuvan-ns
TRUNCATION	tuvans
	/tuvans/
1SG-NOM PL:	//tupa-t-in//
CONSONANT GRADATION	tuvat-in
TRUNCATION	tuvain
	/tuvain/

[5]The Px on the first infinitive is not permitted in Standard Finnish, according to Hakulinen and Karlsson (1979:344), but Penttilä (1957:122) mentions "poetic" juostansa 'his running' and lähteänsä 'his leaving'. Such forms are presumably also found dialectally.

The morphological rule that selects the VC allomorph after the CV of the suffix must refer exclusively to inflectional suffixes, as is shown by the 1INF and 3INF, which satisfy the CV suffix condition (-tA and -mA, respectively), but nonetheless do not accept VC allomorphs, e.g. *juostaan, *lähteään (Penttilä 1957:122) and *puhumaan 'speaking'. Such a morphological condition (CV in an inflectional suffix) would then automatically exclude the NOM SG, since it is suffixless.

[6]The solution to this problem will parallel, if not coincide with, the solution to a similar problem in the selection of the partitive singular allomorphs, -A ~ -tA. Under certain conditions -A is selected (e.g. talo-a 'house'); under other circumstances -tA is selected (e.g. suu-ta 'mouth'); and in addition, -A and -tA are permitted as alternatives in disyllables ending in a sequence of two vowels (e.g. vaalea-a ~ vaalea-ta 'light, fair'). However, if the two vowels are identical, i.e. if they constitute a long vowel, then only -tA is allowed. Thus vapaa 'free' has a partitive singular vapaa-ta, not *vapaa-a.

[7]It is clearly the head nominal to which the Px appends, and not merely the right margin (as in Klavans' (1980) framework), even though the head of a nominal phrase is usually the rightmost branching member. This is clear from relative clauses which follow the head:

vanhempi veli, joka lyösi tytön...
older brother who hit girl
'the older brother who hit the girl...'

In such a relative clause the head, veli, does not come at the right margin of the phrase, but in the middle. Nevertheless the Px attaches to veli, not to the rightmost element, tytön:

minun vanhempi velje-ni, joka lyösi tytön...
my older brother-1SG who hit girl
'my older brother who hit the girl...'

*minun vanhempi veli, joka lyösi tyttö-ni...

[8]The reflexive morpheme itse is also anaphoric and also has coreference to a c-commanding clausemate NP. Since it, too, must agree in person and number with its antecedent, this is another source for the Px.

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